

IN THE CLAIMS

Claims 1-20 were previously cancelled. Claims 21 and 36 are currently amended. Claims 28 and 31 are currently cancelled. Claims 22-27, 29, 30, 32-35, 37 and 38 are carried forward, all as follows:

Claims 1-20 (Cancelled)

21. (Currently Amended) An optical system adapted to generate an illuminated pattern on a surface of a material comprising:

a material support usable to support said material for movement of said material relative to said illuminated pattern at a variable transport speed in a transport direction;

an illumination arrangement including a plurality of light sources, said illumination arrangement being usable to generate said illuminated pattern on said surface of said material moving at said variable transport speed as an illuminated strip having a strip width in said transport direction;

a detection device usable to detect light emitted by said light sources;

a control device usable to selectively operate one, and a group of said plurality of light sources, in a pulsed manner;

a light source chronological behavior of at least one light source of said plurality of light sources, said light source chronological behavior including a light source switched-on time length, a light source switching-on delay time length

immediately preceding said light source switched-on time, and a light source switched-off time length subsequent to said light source switched-on time, said light source switched-on time length being a function of said variable transport speed and of optical properties of said material;

a detection device chronological behavior of said detection device, said detection device chronological behavior including a detection device exposure time length and a detection device off time length, said detection device off time length immediately following said detection device exposure time, said detection device off time length being set as a function of said variable transport speed of said material, said light source switched-on time length and said immediately preceding light source switching-on delay time length being synchronized with, and being less than said detection device exposure time length;

a first time sum set by said control device and including said light source switching-on delay time length and said light source switched-on time length; and

a second time set by said control device and including said detection device exposure time length, said second time being greater than said first time sum, said light source switched-on time length and said light source switching-on delay time length being completely within said detection device exposure time length which is greater than said light source switching-on delay time length and said light source switched-on time length, said surface of said material being illuminated with a constant amount of light independently of said variable transport speed of said material.

22. (Previously Presented) The optical system of claim 21 wherein said control device is usable to switch said light source on simultaneously with a start of said detection device exposure time.

23. (Previously Presented) The optical system of claim 21 further including an electrical current supply assigned to said illumination arrangement and being controlled by said control device.

24. (Previously Presented) The optical system of claim 21 wherein said detection device is a line-scanning camera.

25. (Previously Presented) The optical system of claim 21 further including several groups of said light sources in said illumination arrangement.

26. (Previously Presented) The optical system of claim 25 further including at least one electrical current source controlled by said control device and assigned to each of said several groups of said light sources.

27. (Previously Presented) The optical system of claim 26 wherein each said electrical current source is a constant electrical current source.

28. (Cancelled)

29. (Previously Presented) The optical system of claim 21 wherein said plurality of light sources are arranged as lines in said illumination arrangement and further wherein a profile of an amount of light is produced by control of said light sources over a length of their arrangement as said lines.

30. (Previously Presented) The optical system of claim 29 wherein said profile is set along a length of an illuminated strip.

31. (Cancelled)

32. (Previously Presented) The optical system of claim 21 further including a light sensor connected with said control device and usable to measure an amount of light emitted by said light sources.

33. (Previously Presented) The optical system of claim 32 wherein said control device matches said switched-on time length of said light sources to a degradation behavior of said light sources by use of said light sensor.

34. (Previously Presented) The optical system of claim 32 wherein said control device compensates for a reduction in an amount of light emitted by said light sources, as a result of their aging, by use of said measured signal from said light sensor.

35. (Previously Presented) The optical system of claim 21 wherein said detection device includes a plurality of detectors arranged next to each other in the shape of lines.

36. (Currently Amended) The optical system of claim 35 wherein said detectors arranged next to each other in the shape of lines are arranged parallel to one of a length of said ~~an~~ illuminated strip formed as said illuminated pattern and a width of said material.

37. (Previously Presented) The optical system of claim 35 wherein a spacing between said lines of detection and said direction of movement of said material, is orthogonal.

38. (Previously Presented) The optical system of claim 21 wherein at least one light source of said illumination arrangement emits a constant amount of light during said light source switched-on time length.